

Version with Markings to Show Changes Made

1. (Amended) A polyurethane comprising a reaction product of [which has a number average molecular weight M_n of from 3,000 to 50,000 and an acid number of from 10 to 35 and is preparable by reacting]

- (a1) at least one polyesterpolyol having a number average molecular weight M_n of from 1,000 to 4,000, an acid number of from 0 to 15, and an OH number of from 35 to 150, [based on acyclic aliphatic and cyclo-aliphatic dicarboxylic acids] wherein the polyesterpolyol is an esterification product of at least one of an acyclic aliphatic dicarboxylic acid, an anhydride of an acyclic aliphatic dicarboxylic acid, an esterifiable derivative of an acyclic aliphatic dicarboxylic acid, a cycloaliphatic dicarboxylic acid, an anhydride of a cycloaliphatic dicarboxylic acid, and an esterifiable derivative of a cycloaliphatic dicarboxylic acid,
- (a2) a mixture of at least one diol and one triol,
- (a3) at least one compound containing at least two isocyanate-reactive functional groups [(a31)] and at least one functional group [(a32)] capable of forming anions, and
- (a4) a mixture of at least one acyclic aliphatic and at least one cycloaliphatic diisocyanate,

wherein the polyurethane has a number average molecular weight M_n of from 3,000 to 50,000 and an acid number of from 10 to 35, with the proviso that

- (i) in the mixture (a2), the diols and triols are in a molar ratio of from 2:1 to 13:1,
- (ii) the molar ratio of the polyesterpolyols (a1) to the mixture (a2) is from 4.5:1 to 1:1, and
- (iii) in the mixture (a4), the acyclic aliphatic and cycloaliphatic diisocyanates are in a molar ratio of from 1:0.16 to 1:6;

[to give] wherein the polyurethane is an isocyanato-containing prepolymer [which] that is then chain extended with a polyfunctional amine or amino alcohol[and, if desired, is neutralized].

2. (Amended) A polyurethane dispersion comprising
(A) at least one polyurethane as claimed in claim 1
(B) in dispersion in an aqueous medium comprising water.

3. (Amended) The [use of the] polyurethane as claimed in claim 1, wherein the polyurethane is used to make at least one of a plastics finish, an aqueous coating material, and an aqueous coating material for plastic finishing [or the polyurethane dispersion as claimed in claim 2 in plastics finishing].

4. (Amended) The [use of the polyurethane as claimed in claim 1 or the] polyurethane dispersion as claimed in claim 2, wherein the polyurethane dispersion is used to make at least one of a plastics finish, an aqueous coating material, and an aqueous coating material for plastic finishing [in an aqueous coating material].

5. (Amended) The [use of the] polyurethane as claimed in claim 1 [or the polyurethane dispersion as claimed in claim 2] in an aqueous coating material, said aqueous coating material further comprising at least one of color [and/or effect] pigments, effect pigments, [(C)] and coatings additives.

6. (Amended) The [use of the polyurethane as claimed in claim 1 or the] polyurethane dispersion as claimed in claim 2 in an aqueous coating material, said aqueous coating material further comprising at least one of color pigments, effect pigments, and coatings additives [(D)].

8. (Amended) [The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in plastics finishing, wherein the] A plastics finish that is obtained by the steps of
(I) applying a two component water based primer and curing it to give a primer coat,
(II) applying to the primer coat as a basecoat, an aqueous coating material comprising the polyurethane of claim 1 [to the primer coat],

- (III) applying a two component clearcoat material wet on wet, and
- (IV) curing the resultant basecoat [/] and clearcoat films.

9. (New) A plastics finish that is obtained by the steps of

- (I) applying a two component water based primer and curing it to give a primer coat,
- (II) applying to the primer coat as a basecoat, an aqueous coating material comprising the polyurethane dispersion of claim 2,
- (III) applying a two component clearcoat material wet on wet, and
- (IV) curing the resultant basecoat and clearcoat films.

10. (New) The polyurethane of claim 1, wherein the polyurethane is neutralized.

11. (New) The polyurethane dispersion of claim 2, wherein the polyurethane is neutralized.

ABSTRACT

A polyurethane which has a number average molecular weight M_n of from 3,000 to 50,000 and an acid number of from 10 to 35 and is preparable by reacting

- (a1) at least one polyesterpolyol having a number average molecular weight M_n of from 1,000 to 4,000, an acid number of from 0 to 15, and an OH number of from 35 to 150, based on acyclic aliphatic and cycloaliphatic dicarboxylic acids,
- (a2) a mixture of at least one diol and one triol,
- (a3) at least one compound containing at least two isocyanate-reactive functional groups [(a31)] and at least one functional group [(a32)] capable of forming anions, and
- (a4) a mixture of at least one acyclic aliphatic and at least one cycloaliphatic diisocyanate,

[with the proviso that

- (i) in the mixture (a2) the diols and triols are in a molar ratio of from 2 : 1 to 13 : 1,
- (ii) the molar ratio of the polyesterpolyols (a1) to the mixture (a2) is from 4.5 : 1 to 1 : 1, and
- (iii) in the mixture (a4) the acyclic aliphatic and cycloaliphatic diisocyanates are in a molar ratio of from 1 : 0.16 to 1 : 6;]

to give an isocyanato-containing prepolymer that is then chain extended with a polyfunctional amine or amino alcohol and, if desired, is neutralized [; and the use of the polyurethane for preparing polyurethane dispersions and coating materials for the finishing of plastics].

REMARKS

Upon entry of the present amendment, claims 1-6 and 8-11 are pending in the application. Claims 1-6 and 8 have been amended in accordance with the requirements of U.S. patent practice. New claims 9-11 add no new matter, as these claims contain subject matter deleted from the amended claims. Applicants respectfully request entry of the preliminary amendment.

Respectfully Submitted,

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